



Science and Technology Committee

Oral evidence: [Brexit, Science and Innovation: Preparations for 'No-Deal'](#), HC 1857

Wednesday 30 January 2019

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[Watch the meeting](#)

Members present: Norman Lamb (Chair); Bill Grant; Mr Sam Gyimah; Stephen Metcalfe; Graham Stringer; Martin Whitfield.

Questions 1 - 68

Witnesses

I: Giles Derrington, Head of Policy: Brexit, International and Economics, techUK; Professor Peter Bruce FRS, Vice-President and Physical Secretary, Royal Society; and Professor Tim Wheeler, Director for International, UK Research and Innovation.

Written evidence from witnesses:

- [UK Research and Innovation](#)



Examination of witnesses

Witnesses: Giles Derrington, Professor Peter Bruce FRS and Professor Tim Wheeler.

Q1 **Chair:** Welcome, all three of you. Thank you very much for attending this morning—the morning after the night before, as it were. Will you quickly introduce yourselves?

Giles Derrington: I am head of policy at techUK, the trade body representing the tech industry.

Professor Wheeler: Good morning. I am the director for international at UK Research and Innovation.

Professor Bruce: I am vice-president and physical secretary of the Royal Society. My other day job is that I am a researcher and academic at Oxford.

Q2 **Chair:** I will start by addressing some of the issues related to preparations for a no-deal scenario. Will you indicate to us which areas you believe are well developed and, in a sense, under control, and, conversely, which areas you are concerned about? In particular, which areas do you feel are neglected, given the imminence of the departure date? Who wants to start on that?

Professor Wheeler: I am happy to start.

Q3 **Chair:** Someone has to go. Go on—over to you.

Professor Wheeler: The overall objective of UKRI is to maintain the continuity of funding to the UK research and innovation community. We are working hard to put in place the people and processes to ensure that continuity of funding.

With the information that we know at the moment, in the various scenarios that a deal or no deal may take, we are in a reasonable place. We are reasonably on track to put people and processes in place—in particular, to deliver the underwrite guarantee on behalf of Government to maintain the continuity of funding.

You ask about concerns. Of course, this is a difficult task. A lot of our early work is to understand the complexities of the processes that we may have to put in place in a no-deal exit. Nevertheless, in general, we are working with the worst assumptions in our planning, to make sure that we are as prepared as possible, as the degree of certainty increases as we go towards EU exit.

Q4 **Chair:** Is it your view that, as of 29 March, you can avoid a crisis in research funding in this country, as far as it relates to the funding that has come from the EU hitherto?



Professor Wheeler: I see that in two parts. Both of them are related to the guarantees that the Government have made on continuity of funding. In delivering the underwrite guarantee, UKRI has put in place processes to take grants that are under way now, or will be submitted at the point of EU exit, into UKRI systems, to maintain the continuity of existing grants at that point. We are also planning, with the information that we have at the moment, to implement the underwrite guarantee extension, which concerns those grants that are submitted after the point of EU exit, until the end of the Horizon 2020 period.

As I said, in my assessment, the people and processes that are necessary to deliver those underwrite guarantees are on track at the moment, but we should not in any way underplay the enormity of the challenge to the research and innovation community that this change will bring.

Q5 **Chair:** Peter, may we have your insight into the degree of preparedness?

Professor Bruce: I would say that the concerns are around the two big issues of funding and mobility of people.

On funding, it is very welcome that the Government have agreed to replace and to underwrite any loss of funding from the framework Horizon programme, so that there will not be a cliff edge on funding for those projects and the people involved in them on 30 March.

We receive around £1 billion per annum from the EU into our research base, so it is a very significant proportion. Half of that comes through the instruments of the European Research Council, the Marie Curie programme and the SME programme, which supports our small and medium-sized enterprises. The difficulty is that the Government have not yet guaranteed the funding for that to BEIS. As I understand it, they also have not yet guaranteed the support to set up mechanisms to replace those instruments.

Q6 **Chair:** They have not guaranteed the funding for those schemes, even for those people who are already receiving it at departure date.

Professor Bruce: I think that people who are on schemes now will be protected, but anyone after that time will not. There are no mechanisms for people to apply for that funding post 30 March, so that funding stream will no longer be accessible to people. Unfortunately, it is accessible to UK researchers, but only if they decide to hold the grant in another country. They could move and take the grant with them.

Giles Derrington: I come from the business side of the sector. A number of our businesses have already made a lot of preparations for no deal. The larger, internationally structured businesses, in particular, have been doing a lot of work, especially around things that are mission-critical to a lot of the sector—data flows being the key element.

On the smaller side of the sector—the SME side—it is far more piecemeal. We did a survey in December. Sixty-five per cent. of our smallest



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members—usually people involved in very high-end technical research and innovation—said that they had taken no steps at all yet to prepare for no deal. When they were asked why, the usual answer was that they simply do not know what they need to prepare for. There are so many different outcomes that they do not know which way to jump. About 13% of them also said that they had some concerns about resource funding. They simply could not spend the money that was needed to employ the lawyers and so on to do some of the things that they need to do.

The UK Government have done a lot of really positive things to take steps forward on the data flows issue. For example, recently the Information Commissioner's Office launched a very useful toolkit to help people to understand what standard contractual clauses do and whether they will need them. DCMS has been doing some very good work on that as well.

Chair: We will come on to that later.

Giles Derrington: The challenges that people see are actually on the other side, where they are not in the UK Government's gift. That is where a lot of our members are particularly concerned.

Q7 **Chair:** What do you think are the potential consequences of the lack of preparedness of many of the SMEs that you surveyed?

Giles Derrington: We are already seeing some of the consequences. We have smaller research-focused members saying, "We don't have enough certainty. We are not going to start firing people in the UK, but, when people leave, we will start replacing them in our German hub or somewhere else." That is having an impact.

According to KPMG, quarter 4 of 2018 was the slowest quarter for tech growth since the end of 2015. You are seeing quite significant impacts with regard to things such as access to VC funding, which are on the horizon as quite significant cliff edges if we leave without a deal in March.

Q8 **Mr Gyimah:** I have a couple of questions. The first one is a very basic question. When SMEs prepare for no deal, what does it mean? Is it preparing not to trade? I do not understand it.

Giles Derrington: There are a number of things that the Government have suggested that people do. I think that they are right to do so. For example, on data flows, have you gone through all your contracts and made sure that you have standard contractual clauses in them? That is a huge lift for a number of businesses. To put it in context, when safe harbour, the US-EU agreement, was struck down by the ECJ and collapsed, one of our larger member businesses had to put in place about 2 million changes to contracts over a period of about two months.

Q9 **Chair:** What are the consequences of their not getting those standard contractual clauses in place?

Giles Derrington: You will have no legal basis to transfer data from the EU to the UK.



Q10 **Chair:** Many of these businesses are doing that as their daily course of business.

Giles Derrington: Exactly. If you are using EU citizens' data to build an algorithm, for example, to be part of AI, or for any other purpose—there are a huge number of other purposes for which we send personal data—you will have no legal basis to do that if you do not have SCCs or another legal framework.

Q11 **Chair:** What cost are we talking about for legal fees?

Giles Derrington: It is very hard to tell, to be honest. We estimate that, depending on the type of contract, you may be talking about up to £30,000 for different things that you need to do—for example, putting someone in the EU to continue with your GDPR purposes. Ultimately, you are talking about lawyers' fees, the complexity of your contracts and how many contracts you need to move. It is a bit like asking, "How long is a piece of string?" A lot of the smaller businesses do not know where to start. That is not all they are dealing with. They are also dealing with how they move their people around and whether they need to set up subsidiaries—all the other questions that cascade off any business, in any sector.

Q12 **Mr Gyimah:** Do we have a sense of the scale of the challenge? Do we know how prepared these businesses are?

Giles Derrington: Broadly speaking, the bigger companies among our members feel that they are as prepared as possible. By the way, people do not have to open the contracts. If you are contracting with a European partner—a French partner, for example—and you say, "We need to open the contract, so that we can put in a standard contractual clause," they do not have to do so. We have seen some instances of their saying, "Sorry—if we are changing the contract, let's change it properly. Let's talk about the impact on sterling and lots of other things." It is a bit difficult to know, but we think that roughly 30% of contracts have come into difficulties in that way.

You asked how well prepared businesses are across the board. As I said, 65% of our small members say that they have not prepared for no deal. You can extrapolate that out across the sector.

Q13 **Chair:** Are you out there giving advice to these people about what they need to do?

Giles Derrington: Absolutely, but there is only so much advice that anyone can give you. Ultimately, you need to say, "Here are all the contracts that we have. Which ones need to change? How do they need to change? Are we a processor in this case, or are we not?"

Q14 **Mr Gyimah:** May I ask a question of Tim Wheeler? It is on information. I know that UKRI has a portal, because it did not have information on all the grants that have been given. How successful has the portal been? Do



we know the extent to which we need to underwrite?

Professor Wheeler: We have two measures of success in those terms. The portal was opened in September 2018 to gather the information on current grants under Horizon 2020. At the moment, we have almost 100% returns from universities for what we term participations—grant awards. There has been a total of 4,422 returns through the portal.

For businesses, companies, charities and other bodies, the returns are less. There are about 1,000 at the moment. We are undertaking more active communications to that community to make it aware of the portal.

Q15 **Chair:** My understanding is that we are working on the assumption that it is perhaps 5,000 out of a total of 10,000. Is that the working assumption?

Professor Wheeler: At the moment, we expect that, at the point of exit, there will be approximately 8,200 active participations. At the moment, we have the 4,442 from the HEIs captured within the portal. There are 1,000 or so from business, so we want to get to probably two thirds of the organisations from business and other sectors.

Q16 **Chair:** If they are not registered, they will not be able to take advantage of the underwrite.

Professor Wheeler: They will not, but there is no deadline to register. Grants start and end at different times, so there is a rolling opportunity to register. If they do not register, that will be the case.

The second piece of evidence in this respect is from the UK Research Office in Brussels, which represents UK researchers there. It has put out a factsheet with information about the underwrite guarantees and links to information about research funding under various Brexit scenarios. That has been accessed by research organisations more than 15,000 times since August last year.

Q17 **Martin Whitfield:** I will try to bore in on Horizon 2020 and the implications of that. In August last year, the Government said that they had secured €5.1 billion of funding, which is 14.5% or so. My understanding is that the EU has said that, in the case of no deal, that funding is effectively off the table.

I want to clarify a couple of things. First, is it your understanding that, without a deal, we would effectively become a third country for the purposes of Horizon 2020, or is that still possibly open to negotiation in a few weeks?

Professor Wheeler: Again, I would divide my answer into two parts. Grants that are ongoing and are submitted until the point of EU exit are covered under the underwrite guarantee, on their current basis. Those that fall under the underwrite extension and are submitted after the point of EU exit will be submitted on a third-country basis, as you say. For that cohort, we are undertaking a number of activities, such as trying to



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anticipate how many applications will fall into that category. Within that, we are trying to anticipate how many will fall within those schemes that are not covered under third-country participation.

Q18 **Martin Whitfield:** Do you have a figure in mind for that?

Professor Wheeler: Going on past applications as our evidence base, we may be looking at up to 3,000 awards under third-country participation. The Royal Society's evidence to this Committee puts a sum on the total funding that that might be. We are working actively with BEIS to seek out alternative measures to cover those awards that will fall into the third-country participation category.

Q19 **Martin Whitfield:** Is there any evidence that the domestic scheme will replace that with a like value?

Professor Wheeler: I think that that is work in progress.

Q20 **Chair:** You do not yet have a commitment from the Treasury for the money.

Professor Wheeler: We would look to BEIS to obtain the commitment from the Treasury to cover any alternative measures to those three particular schemes.

Q21 **Chair:** But that has not come through yet.

Professor Wheeler: Not as far as we know. Nevertheless, our role in this is to develop the people and processes that would enable us, if it were to come through, to deliver those alternative measures.

Q22 **Chair:** Will you be ready with your alternative scheme for the departure date?

Professor Wheeler: In terms of our preparedness, I think that we are stepping through at the right pace to have the people and processes in place to be ready to deliver those alternative measures, if we need to do so. We have developed quite a deep understanding of the problem. For example, we have scrutinised the 25 peer-review panels that underpin those processes and have looked to see how well they are represented within existing research council processes, as part of our preparations for when we get confirmation that those alternative measures should go ahead in that form.

Q23 **Martin Whitfield:** You are confident that the actual process will be ready—putting to one side the question of the money input coming in.

Professor Wheeler: I would say that we are on track to develop the processes that would be needed to deliver those alternative measures by the end of March.

Q24 **Martin Whitfield:** Professor Bruce, earlier you said that the reality is that these research teams will still be able to access Horizon 2020 from other European countries. Have you seen any evidence that teams are



looking to relocate because of the risk of no deal, rather than for some other reason, such as access to other scientists? Is there any evidence of that out there, or is it still just a theoretical fear, based on the fact that they could go to Europe to access the funding?

Professor Bruce: Under the Horizon programme, there are two very different sets of challenges. There are what I would call the collaborative programmes, which would give us third-country status. That is the issue that you addressed a moment ago. Then there are the other three things: the European Research Council, the Marie Curie fund and the SME programme. They are in a very different place. As I said, we do not yet have guarantees for those three programmes. That was your question to Tim. I think that it is a formidable challenge to deal with £500 million of funding that will suddenly be coming by a very different route.

To answer your point directly, I do not think that we have seen any clear evidence that people are going to apply for that funding—which they are entitled to do—and then move to a country that will be within the EU. What is definitely happening—I can say this from personal experience—is that many people putting together projects and teams to apply for funding in six months' time or whatever, which is a formidable piece of work, are looking very hard at whether they should include UK-based researchers. Funding is hard to get. Anything that increases the risk of failure is hard to justify to the other team members.

Q25 **Chair:** Do you fear that this could have a significant impact on the extent of collaboration between UK universities and the EU?

Professor Bruce: Yes. That is the concern—that it would be harder for us to be taken on board inside collaborative programmes, because of the fear of the uncertainty about the impact on the outcomes of those applications when they go through the peer-review processes.

Q26 **Martin Whitfield:** May I follow up with a last question on that? Is it the case that we are going to have a dip in research simply because of these events, no matter what? These research projects can go on for years, but, whether we stay, leave with a perfect deal or leave with no deal, we are certainly looking at a down point, just as a result of the events that have happened.

Professor Bruce: The programmes that are running currently and will be funded up to 29 March will be fine.

Q27 **Martin Whitfield:** They are fine.

Professor Bruce: If there is a dip, it will not be a dip on 30 March. The dip may come later—down the track—if the uncertainty leads to our not being included in collaborative programmes to the same extent as we might have been before. It is hard to predict whether that dip will happen. There is just too much uncertainty about that in the future.



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The thing that I would say about the ERC, the Marie Curie programme and so on is that I am sure that everyone will use their best endeavours to apply the instruments that we have in the UK to that extra funding in the short term, but we need to develop new methods of dealing with that funding in the longer term.

Q28 Mr Gyimah: I have two questions. The first is around ERC and MSCA grants, which you have just mentioned. It would be helpful to get some clarity on what a domestic replacement would look like, given that the reason a lot of scientists are attracted to those grants is that they are prestigious, they are highly competitive and you want to go against the best. What does an alternative that we set up look like when it is put against that?

Professor Bruce: That is a very good point. Although they are all under the Horizon programme, it is worth characterising the fact that the European Research Council ethos is very different from the collaborative programme ethos. The latter is driven much more by research leading into innovation, whereas the ERC is just about scholarship and intellectual leadership.

What I would say about future mechanisms is that it will be important that we keep some diversity in our funding schemes. One of the advantages of having the EU, the ERC and UKRI is that there is a level of pluralism in the system. It is not a one-size-fits-all model for funding. Therefore, anything that we develop in the future should have some degree of distinctiveness in how it operates.

From the Royal Society's perspective, I should say that we stand ready to help in this in any way we can. We do not want to become a funding agency in the long term, but we would be happy to help to shape a future structure, along with our other learned societies.

Q29 Mr Gyimah: Do you think it is possible to develop something that would have the prestige, would attract the scientists and would have enough funding to be a genuine alternative?

Professor Bruce: Yes. I think that it is possible to develop mechanisms that would have the same level of rigour and the same quality threshold for the science and engineering that would be funded through that research council system. Of course, there is always an implicit question about whether, if you reduce the competitive pool—in other words, you are competing not across 28 countries, but inside one—you can keep the bar as high as it should be.

The evidence for the UK is that we have been spectacularly successful in winning against all those competitors. We are the fourth best funded in these programmes out of the 28 countries. I think that our systems internally have always set an extremely high standard, so I am not desperately concerned about maintaining the standard—if we can put the mechanisms in place.



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Q30 **Chair:** In its written submission, the Royal Society says, “No-deal’ is a bad deal for science...If we leave without a deal, it will impact on scientific research immediately and could take years to rebuild.” You are sounding more reassuring today. Does that mean that you have moved on?

Professor Bruce: No. I do not mean to sound—

Q31 **Chair:** It is really important that you are clear on what you see as the scale of the risk. This is written in quite stark terms. Is that what you believe?

Professor Bruce: I would say that the scale of the risk is that, currently, half of that £1 billion funding—£500 million—comes through those three instruments. I think that it is a significant challenge to pick up half a billion of funding and push it through our current systems. We do not yet have any system in place to take this forward in the medium term. We do not have a set of ERCs, or UKRCs, set up at this stage. That uncertainty is what is expressed in the written submission.

I think that it can be dealt with. In other words, if we do the right things, we can significantly reduce the risk, but we have not done them yet. We need to do them soon. That would be my position.

Giles Derrington: The questions about funding are incredibly important. Actually, for some of our members in the sector, it is not just about the funding—the collaborative nature of these programmes is incredibly important. I have spoken to member businesses who say, “We don’t care about the funding from Horizon 2020. What we do is go and reach the best AI data scientists in the world across Europe. They want to partner with us. They can partner with us through this mechanism. Then we explore where we can get innovation from.” Obviously, the funding is vital, but there is the wider collaborative point. Inevitably, that is harder if you are a third country.

Q32 **Chair:** You are saying that, whatever domestic scheme we get in place, the danger is that collaboration suffers.

Giles Derrington: Yes. We have some of the best data scientists in the world here, but there are plenty of others around Europe. The collaboration across the 28 is really valuable for—

Q33 **Chair:** Is there work under way to see how a domestic scheme and the Horizon Europe scheme, in the future, could have some synergy between them, to rebuild collaboration? Is that a possibility, using the two mechanisms, working hand in hand?

Professor Wheeler: Some of the really big, important partnership schemes under Horizon 2020 fall under the underwrite guarantee, so we do not see those as being at risk—with one or two smaller exceptions. When we look forward to beyond the end of Horizon 2020, we welcome the Government’s commitment to seek full association for the UK to Horizon Europe. At the moment, we are still working under that preferred



option. Quite what that will look like we are only just beginning to know, but there are elements of the current Horizon 2020 programme that are replicated under the draft plans for Horizon Europe, including a big discovery science ERC-type pillar.

Q34 Mr Gyimah: It is encouraging to hear that there is grip, but scientists will argue that it was better for Britain to be in the EU. Now you appear to be telling us that, if we leave in a no-deal scenario, it will all be fine. Those two statements cannot be true.

Professor Bruce: I am certainly not saying that.

Mr Gyimah: In other words, it strikes me that we are not getting the full picture of what disadvantages there will be, if any. If there will not be any, that is what we need to know.

Q35 Chair: It is really important for you to be candid with us about the scale of the risk that we face. We do not want to hear reassurances. We want to hear it straight from all of you. That is clear.

Professor Bruce: I will pick up on that. It is specific to the different programmes. The ERC largely funds individuals, so collaboration is not such a key issue there. The problem there is that we do not have anything in place. As I said, I am reassured to hear that UKRI are working hard on this, but I recognise that it is a very big challenge. I think that there is a big risk there, from the funding element and because we do not have anything in place to pick up on delivering that funding.

On the collaborative programmes, Giles is right. The funding is not the only issue—there is also the difficulty of collaborating. As I mentioned, our colleagues in Europe are less enthusiastic about working with us and including us. The problem is that, at the moment, we can access equipment and facilities in Europe without any friction. In the future, that will be—

Q36 Chair: Presumably, that is immensely valuable to science in this country—and, indeed, to the technology sector generally.

Professor Bruce: Absolutely.

Q37 Chair: How would you describe the scale of the risk of losing that collaboration?

Professor Bruce: I will give one example. A lot of us have talked about deal or no deal in the context of the effect on businesses and the economy with respect to the single market and customs union, but a third element that is vital to our economic welfare and industrial success is science and technology. To take an area I am familiar with, 800,000 jobs in the UK depend on the success of the automotive sector. If that does not transition to electrification, those jobs may go. That requires developments in battery technology that we do not yet have, so science and technology will have to drive that transition. If we are isolated from the science base in Europe, it will make that challenge harder.



Giles Derrington: I think that goes to the wider point that our members are quite frustrated in the context of the discussion on no deal. A lot of the questions have revolved around WTO tariffs and those kinds of questions. The reality is that on digital and services in particular and across the board WTO does not prepare us. The e-commerce discussions at WTO started last Thursday after a delay of 20 years. They are not going to be ready by 29 March. I am sure it will come as no surprise to the Committee that we do not sell silk and spice any more; we sell innovation and information. That is what we are very good at and it requires a high level of constant innovation to keep ahead of the curve. That leads to science and things that are not dealt with well in the World Trade Organisation.

Q38 **Chair:** Are you saying we cannot rely on WTO in terms of data?

Giles Derrington: It simply does not exist. There are no WTO rules on data; there are barely any WTO rules on most services elements.

Q39 **Chair:** Which is at the core of the modern economy.

Giles Derrington: Yes. We are an 80% service economy. Eighty-one per cent. of digital exports from the UK are services based, not goods based. Increasingly, the goods we do sell are wrapped around with services, and those things are not and cannot be dealt with at WTO. Therefore, while the discussion about tariffs and customs union is incredibly important, it is a very small part of quite a big picture for the UK economy.

Q40 **Stephen Metcalfe:** You painted a fairly bleak picture when you said that 81% of our economy was about to collapse because we had voted to leave the EU. While we want you to be candid, we also want a little bit of realism to be applied. You said we could end up being scientifically isolated with no deal. Do you not think we would find fairly quick work-arounds that would allow scientists to continue to collaborate, because that is in their interests and in their very nature?

Professor Bruce: Funding is important but the people are probably more important, because people drive science and innovation. The impact on the difficulty of recruiting people is already clear. I can quote from my own experiences. I have been doing research for 30 years. It is only in the past two years that when I have advertised for researchers there have been no applicants from the main European countries: France, Germany, Italy and Spain. That has not happened before.

That gives you a coalface example of what is happening. It is the perception as much as anything of those other countries and the people of those countries. I am a young person who wants to get experience, travel and work in other places. If I am German, I will go to France, Italy or Spain because it will just be harder to come to the UK.

Inevitably, we will have to put bureaucracies in place to deal with this, and as soon as you do that you create friction. That is one of the problems. We have seen that happen with a lot of the things put in place



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for people outside the EU to come here. We create barriers to recruitment.

Giles Derrington: It is important to be clear. I do not think anyone is talking about 81% of the economy collapsing, but the reality is that when we talk about falling back on WTO terms they do not exist for a large part. Services trade will continue; it is just harder, and the misalignment of regulation over time will create barriers. Thinking of something like data flows, were we to leave on day one we would not have an adequacy agreement. That means an additional heavy lift for businesses and reliance on something that is less secure.

That will have an impact on our ability to get contracts. If I am a German business looking to partner with someone for data flows, do I rely on the standard contractual clause, which is currently under legal challenge at the ECJ and is the one the UK relies on, or can I go to a French or Belgian data centre where I know there is a solid process because it is part of one GDPR process?

Those challenges will have an impact. For most of our members who have done the planning and feel prepared for it, the one unknown is what happens to the rest of the economy. If sterling falls, some cloud services will be uncompetitive. It is not in their gift to determine and understand those challenges and that is why they are being cautious about investment, which has a long-tail impact.

Q41 **Stephen Metcalfe:** In your sector what is the difference between what you are doing inside the EU and businesses outside the EU? Presumably, you have looked at the rest of the world as well.

Giles Derrington: Absolutely.

Q42 **Stephen Metcalfe:** How do those two systems align? How do they work around those?

Giles Derrington: If we take the US, one of the reasons the UK has been an incredibly good hub for technology around the world is that it has acted as a gateway into Europe. We have been within the European regulatory system, so we have US companies coming to the UK and establishing their research hubs because they know there is that gateway. For example, big US banks, which are heavily data-oriented, bring their data into the UK, package it up and send it across to the US.

Once we leave, that relationship has to change. We do not yet have a sense of how Government policy—political policy—intends to address that. What type of world trader will we be is a big question that we do not have an answer to.

There was some discussion early doors in the Brexit process about whether we should abandon GDPR so we could do a free trade deal with the US. All our American companies said, "Don't do that; it has global



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reach. We're going to apply GDPR across our entire business. We'd much rather you stayed inside it."

If we lose influence once we are outside the EU mechanisms, it does not mean we cannot still use it. We have to understand where our economy succeeds, not hope for a new economy; that is a difficult path for Britain.

Q43 Stephen Metcalfe: Changing tack a bit, I want to go back to the underwriting of Horizon 2020. Professor Wheeler, you have talked about registrations and so on. However, we have heard from Newcastle University that it was not aware of the portal to register. How are you going about publicising the fact that there is an underwriting scheme and how people can access it?

Professor Wheeler: I do not know specifically about Newcastle University. I thought we had captured all the HEI sector, with one or two exceptions that did not include Newcastle. When the portal was launched in September 2018, we ran a comms campaign. Importantly, because some universities hold a lot of grants, we had a tool that allowed them to upload in bulk—hundreds of grants in one upload. Some universities responded very quickly. Some responded within 12 hours and uploaded their information; others responded less quickly. If there are obvious omissions from the portal entries, we will try to pick those off one by one, but I cannot confirm that Newcastle is on that list.

Q44 Chair: To be clear, it is not Newcastle saying it was not aware of it; it had heard that others were not aware.

Professor Wheeler: Thank you for that clarification. To go back to my other point, we think we have almost 100% of the HEI sector, with one or two exceptions that we know of at this point.

Q45 Chair: But, as you said earlier, SMEs are more difficult.

Professor Wheeler: The SMEs are more difficult where we are undertaking active comms through partner organisations, such as the CBI and chambers of commerce, to try to get those registrations a lot higher.

Q46 Stephen Metcalfe: Therefore, you are still working on that programme.

Professor Wheeler: At the moment we are working harder on the SME charity sector than HEI for that reason.

Q47 Stephen Metcalfe: The other point is about how quickly funding would become available if the underwrite is required.

Professor Wheeler: Our aim for the ongoing programmes is to switch the agreements, contracts and funding flows immediately into UKRI systems with no perceptible delay for that cohort. That is an enormous task. We should not underestimate the difficulty of doing that, but we are planning from day one and in our subsequent activities to be at that point.

Q48 Stephen Metcalfe: There should be no interruption in cash flow.



Professor Wheeler: There should be no interruption.

Q49 **Bill Grant:** I have a couple of questions on EU and UK data transfers in a potential no-deal scenario. Back in 2017 the House of Lords EU Committee warned that no deal would bring data exchange or data co-operation between the UK and EU almost to an abrupt halt. In order to counteract that, are the preparations outlined in the Government's technical notice on data protection adequate to mitigate that scenario or risk, if it transpires?

Giles Derrington: The technical notice about the UK, in the event of a no deal, automatically declaring UK to EU transfers adequate is quite helpful, frankly. It helps to solve some of the problems that businesses face. The problem is that data transfers are two way.

Our biggest challenge at the moment, which we are all working on with our members, is how you do the EU side of this. What we need to see happen is that the individual 27 member states' data protection authorities look to some kind of moratorium, as they did in the case of safe harbour, so that a German business transferring data to the UK is not suddenly in breach of GDPR on 30 March when it was not on 29 March.

At the moment, the Commission and European Data Protection Board are quite reticent to have that conversation. We have been working very hard with our sister trade bodies across Poland, Germany, France and so on to try to make this case, but it is a challenge. If you cannot do both, it will have an impact.

One other important thing about no deal, which we are still trying to understand, is that the withdrawal agreement has, as title 7, a big package of questions about legacy data—data that have already been transferred to the UK before exit. It is entirely unclear to us—we are still waiting for answers from the DCMS—what happens to those data. Some of those data are being used in algorithms and so on.

Theoretically, the data are no longer here legally, so we have to give it back. The question is that, if you try to give it back, you have to understand which bits of data they are. If you are trying to delete it, you have to determine which bits of data they are. Both of those things would be processing data, which would be in breach of GDPR. We are not sure whether we can touch it and we have to close it off. Ultimately, trying to extract individual bits of data from an algorithm is a bit like taking eggs from a cake: it is nigh on impossible. We and a lot of our members do not yet know how they are supposed to do this, other than to warehouse it and leave it forever, which obviously has quite a significant impact depending on the size of the business and the nature of what it does.

Q50 **Bill Grant:** Could we achieve an adequacy decision between ourselves and the EU that our standards are compatible or dovetail with theirs? I imagine we would have to achieve it beyond the exit date. How long do



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you think such an arrangement, if it is at all possible, would take? Would it be a swift engagement or would it be protracted, bearing in mind we have double datasets?

Giles Derrington: The fastest ever adequacy agreement, which was with Argentina, took 18 months. We would anticipate being able to do something slightly quicker than that. It is worth bearing in mind that the problems here and the questions the Commission will ask in their adequacy processes are likely not to be entirely focused on businesses, because businesses complying with the GDPR will largely align. The question is, what comes into scope of the EU that is currently not in scope as a member? That is related specifically to national security data. There are big challenges there.

We are relatively confident that the UK Government are taking this seriously and working through those processes, and measures like the Investigatory Powers Act can be overcome as potential barriers. There will certainly be people within the Commission and elsewhere in Europe who do not want to see an adequacy decision on that basis.

We feel it can be overcome, but it will take time; it will take technical, slow working through. We have been saying for a while that we would like the adequacy discussions to start as soon as possible, because theoretically there is no reason they cannot. The EU, as with everything else, is saying, "We will not start these discussions until you are a third country," so for us I would be surprised if it was under a year.

Q51 **Chair:** Presumably, because we have been part of the EU system, it follows that EU accepting UK adequacy ought to be almost a given.

Giles Derrington: We are reasonably clear that, if you cannot give the UK adequacy, which other country could you give adequacy to? It becomes difficult. The problem is that at the moment, because domestic national security is a retained matter for member states, the Commission and others have no ability to look at things like the bulk collection of data under the Investigatory Powers Act. As a third country, the entire data transfer process is in scope, and that is where their concerns lie.

We think they can be overcome, but there are others in the Commission who will disagree, and there will almost certainly be legal challenges. It is worth bearing in mind that, if we were to rush the process and the EU abandoned its process and did it quickly, almost certainly Max Schrems and other privacy advocates would subject it to legal challenge, and that does not necessarily provide certainty. What we do not want to see is the UK getting a quick adequacy agreement, but it then being struck down by the ECJ and suddenly we are back to square one.

Professor Wheeler: For UKRI, a key risk is around data concerned with research funding. We have covered that under the portal discussion and the agreements, contracts and funding related to that.



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There are one or two areas we have looked at particularly closely. One of those is data collected as part of funded clinical trials, mainly through the MRC. Those data generally are held at the point of collection, but in order better to understand any potential impacts of a no-deal scenario UKRI is working with the UCL clinical trials centre to try to understand the data elements of a no-deal scenario for those data types.

Professor Bruce: To pick up Tim's point about the regulatory frameworks and broaden it slightly from data, one of the challenges will be the ability to carry out clinical trials, especially where the cohort is limited—for example, paediatrics. At the moment, we can carry out clinical trials driven from the UK across the European Union using the whole thing as a base. If we immediately adopt all the same rules and regulatory framework of the EU that will be fine, but if we diverge from that at some future date it will be much more difficult to carry out clinical trials in important areas where the UK is world leading.

Q52 **Bill Grant:** As a partner in the European Union, working collaboratively up until a possible no-deal Brexit, could there be a legal challenge to the ownership of the data? Which side of the divide, if that is the right word, would own the data? Could that arise?

Professor Wheeler: I do not know. We can perhaps submit comments on that to the Committee afterwards, but on that specific question I am not sure.

Q53 **Bill Grant:** Let us hope it does not happen, but it is concerning.

Giles Derrington: If it was being transferred on a legal basis, theoretically, no, because the law is pretty clear. It is worth saying that standard contractual clauses, which will be used for a lot of these cases, are currently subject to an ECJ court case that we are waiting for.

Q54 **Chair:** Do you have any idea of the timescale for that court case?

Giles Derrington: With the ECJ, as ever, how long is a piece of string?

Q55 **Chair:** Nothing is imminent.

Giles Derrington: The ECJ can move at various speeds. The worst-case scenario, which is a potentially critical risk—we do not think it will happen, so I do not want to engage in scaremongering, but it is on the watch list—is that we leave the EU without a deal; people put in place SCCs; a month later the ECJ rules them unlawful; and, suddenly, your options for legal transfer are very limited at that point.

Q56 **Bill Grant:** My final question is about the contractual clauses. You mentioned “difficulties” with them, yet the UK Government continue to require or request that we put them in. Is there no alternative to that, notwithstanding the ECJ court interest in it?

Giles Derrington: Ultimately, no, other than an adequacy agreement, which is the massive priority for our sector. There are things like binding



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corporate rules that companies can do. A lot of companies are beginning to put in place inter-company transfers, but that does not help you if you are partnering with any supplier at all.

Codes of conduct can be developed under the GDPR, but because the GDPR is so new none of that is off the ground yet, and we do not anticipate seeing it for a significant time.

Q57 Mr Gyimah: I would like to ask some questions about research and mobility. Building on Professor Bruce's point about ERC and research grants, my understanding is that a lot of the research grants go to the scientist. In the event of no deal, are we going to see a flight of talent because they need to work in teams outside the UK? Are we going to see other EU countries trying to poach our scientists, for example? What is the risk? Is there an assessment of it?

Professor Bruce: There is. As I mentioned before, ERC grants are generally held by individuals; they are very much supporting individual excellence. The collaborative issue is not a problem, by definition, but the danger is that those very attractive grants—they are excellent things to get and are not just prestigious, but hugely valuable to individual scientists—can be held in any other European country. Someone in France, Germany, Italy or Spain says, "You have won that grant. Come to our university and we will give you all these facilities. You will have access to the rest of the EU facilities across all the other member states, and you can hold your grant here." That is the danger. They are entitled to walk with their grant; we cannot stop them leaving if they choose to take that funding with them, so that is exactly correct.

Q58 Mr Gyimah: Building on that, I understand that the University of Oxford has set up a joint venture with the Technical University of Berlin. I think Cambridge is looking at something like that, as is UCL. We have always looked at the mobility problem in terms of people coming in, and I will come to that. There is a question of flight, with some of our leading universities establishing centres within the EU to access grants—the researchers do not have to be based here.

Professor Bruce: There is a danger of a brain drain, to use a term probably from the 1960s, for the same sorts of reasons. Where you have a very attractive research ecosystem somewhere and a great deal of uncertainty and a shrinking ecosystem, not necessarily in terms of funding but the international dimension of it, you have the risk of people deciding to move.

A lot of the people, especially mid-career researchers, have spent their whole lives within the European Union; they are used to the whole ethos of moving between countries. They are probably less anchored in the UK than some of us who were here before, so to speak, and that may well have an impact on the loss of talented people.



The other point to make on mobility is that it is hugely valuable for us to be able to send researchers to spend periods in other labs and access facilities and equipment that the UK perhaps does not have. We have no idea whether countries will put up barriers to our doing that. We may be very open to bring people here; we may make it as easy as possible, but that does not mean to say that France, Germany and other European Union countries will make it as easy for us to send our people to access facilities and resources in those countries.

Q59 Mr Gyimah: As a general question, 16% of the UK academic workforce comes from the EU. What are your thoughts on the Government's reassurances that their settled status scheme will go ahead even in the event of no deal? Is that sufficient to mitigate a mass flight of EU staff from the UK?

Professor Bruce: I do not think we will see a mass flight or catastrophic drain of people away from the UK, but, even though the barriers may seem relatively low, having worked with the visa system for people coming from all over the world, my experience is that, although they may appear to be bureaucratically low, they turn out to be bureaucratically burdensome on individuals.

In a different context, I have seen people from India having to go back to India to apply to come back into the UK because the rules mean they cannot apply from the UK, even though everyone knows they are coming back here and have been here before. Things like this happen. The unintended consequence of bureaucracy is that often it becomes a barrier to movement, whereas at the moment there is nothing; you do not have to think about it.

Q60 Mr Gyimah: Do you think there is sufficient clarity on the immigration status and rights of researchers taking up posts in the UK after 29 March in the event of a no-deal Brexit?

Professor Bruce: Do you want a short answer? No.

Q61 Mr Gyimah: What could be done to provide clarity?

Professor Bruce: People have to feel they can come here and are welcome here. That is another issue. A lot of the messages—they are not intended; I know no one wants to send them out—do put people off. You have to have a very positive message to encourage people to come here, and we have to make it easy for them so they can come without having to pay to be here, register regularly and do all those things that they do not have to do now. To use a word employed in other contexts, it has to be frictionless.

Q62 Mr Gyimah: The EU has said that for visits of up to 90 days UK citizens will not need a visa to enter an EU country. I think I know the answer to this. Is that sufficient to facilitate scientific collaboration?



Professor Bruce: It is not. Those people are looking much longer term. They want to come here for three years; they may even want to come and build their careers here.

Giles Derrington: As regards people going from the UK to the EU, we have a number of companies where engineering teams based in the UK serve the rest of Europe. For example, if a data centre goes down in Nice, they have to be on the next plane. If they cannot do that in a frictionless way and be there for potentially significant amounts of time—perhaps they have to do a full build of a new server system, or whatever it might be—they cannot be based here; they have to be based somewhere else in Europe.

The challenge then becomes: what do they drag with them? If you move engineers, you start moving your R&D, sales hubs and so on because you want to cluster these things together.

Coming back to WTO, mode 4 mobility is just not there in sufficient ways, because for the best trade deals in the world it does limit it to a maximum of 12 months. Often, that will not be sufficient to deliver some of the services people want.

Q63 **Stephen Metcalfe:** Presumably, you have looked at the immigration White Paper that the Government have produced.

Giles Derrington: Yes.

Q64 **Stephen Metcalfe:** I asked exactly the same question of the Immigration Minister and had all the reassurances I wanted, but you are saying they are not there.

Giles Derrington: You are talking about people coming into the UK.

Q65 **Stephen Metcalfe:** In and out to do that build and the commissioning of new equipment, and to have service centres so that you can fly in at a moment's notice to repair something. You are saying that is not there.

Giles Derrington: It is not within the gift of the UK. That is why we have concerns. If we look at the trade deals around the world, CETA, the Canadian trade deal, limits it to 12 months. Frankly, 12 months might be enough for some, but it also means that, if you offer a contract that is able to run for only 12 months and you are up against a French or German competitor who offers three or four years, there is a competitiveness element as much as a practical one.

Q66 **Martin Whitfield:** Can you identify any key example where the regulatory alignment between the UK and EU is absolutely essential but might be absent come the end of March? I ask for an example for the next set of questions.

Giles Derrington: We asked our members a question about alignment. About 60% said that alignment was much more preferable than flexibility,



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which goes against what the Chequers White Paper says about flexibility and data.

A good example would be the AVMS directive for broadcasting services. We broadcast 50% of the European channels; they are currently leaving the UK. Discovery moved recently. That has a direct impact on UK telecommunications and satellite technology businesses that service that market.

Q67 **Martin Whitfield:** Are there any other examples?

Professor Wheeler: I gave the example earlier of clinical trials.

Q68 **Martin Whitfield:** Which is crucial in a wider context.

Professor Wheeler: Yes.

Chair: Thank you all very much indeed. We really appreciate your time.